



Introduction

The red drum, *Sciaenops ocellatus*, is one of the most highly prized inshore fishes by anglers in South Carolina. Depending on the time of year, fishes from 12 to 50 inches are available to the recreational community. This species is a gamefish in our state and can only be harvested by rod and reel and gig. The latter segment of the fishery is closed from December through February.

Since designation as a gamefish in 1985, the regulations applied to the harvest of this species have been altered eight times by the legislature. The present restrictions have a bag or creel limit of two (2) fish per angler per day in a 15 to 24 inch total length slot. The purpose of these measures is to allow a sufficient number of juveniles and sub-adults to “escape”, i.e., survive to maturity (ages 3 to 5) and join the spawning population in coastal waters.

The immature fish spend the year inside the state’s estuaries, whereas the adults make inshore-offshore migrations with the direction being dependent on the season. Adults red drum overwinter in the warmer waters offshore and, as inshore waters warm in the spring, they move towards the coast where they spend the warmer months near inlets, offshore bars and along beaches.

The Fishery

In presenting the status and trends in the recreational fishery for red drum, the information is organized according to a “bass-year” rather than a calendar year. A bass-year extends from the first of July to the end of the following June. In July, red drum that were spawned the previous year are available both to our sampling gears and the recreational fishery. The minimum size limit requires that the fish less than 15 inches in total length be released. By partitioning the year in the manner described above, a yearclass can be traced as it progresses through the fishery.

The total catch in numbers, as estimated by the Marine Recreational Fishery Statistical Survey (MRFSS) of the National Marine Fisheries Service (NMFS) for South Carolina, has fluctuated around a long-term mean of ~250,000 fish per year (Figure 1). The most recent period for which we have data (July 2003 through June 2004) showed that the total catch was far above the long-term average and was among the four highest values for the time period covered by the data. This resulted from the entry of the very strong 2002 yearclass (a yearclass is used to designate the fish that were born during a specific year – the 2002 yearclass was born from late July through early September 2002). They entered the recreational fishery in July through September of 2003 and reached the legal minimum size of 15 inches total length in the spring of 2004. This group of fish will remain in the slot for another year as well as contribute significant numbers to the estimated total catch until 2006-2007.

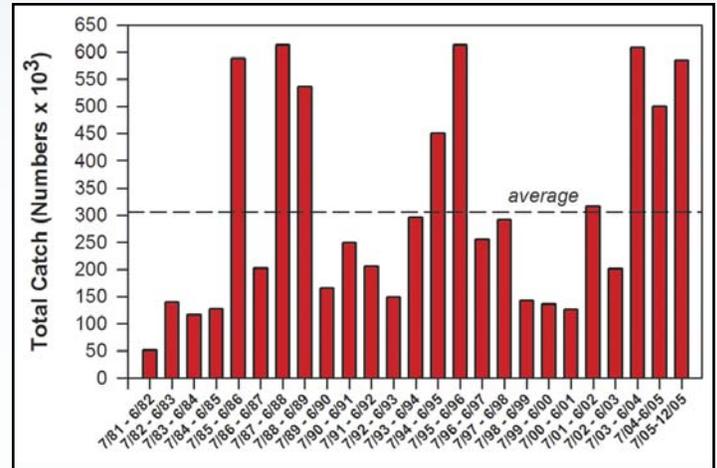


Figure 1. South Carolina total catch of red drum in the recreational fishery through 2005. Dotted line is the long-term average catch.

Keeping with the historical trend, a significant number of the red drum in the recreational catch were released alive. In the past three years, the segment has contributed over 70% to the total catch, i.e., more than twice as many red drum were released alive than were harvested (Figure 2). The magnitude of the harvest was slightly over the long-term average landings (Figure 3). Since the implementation of the present slot limits in 2001, approximately 8% of the harvested fish were illegal with 4% being too small and 4% being too large.

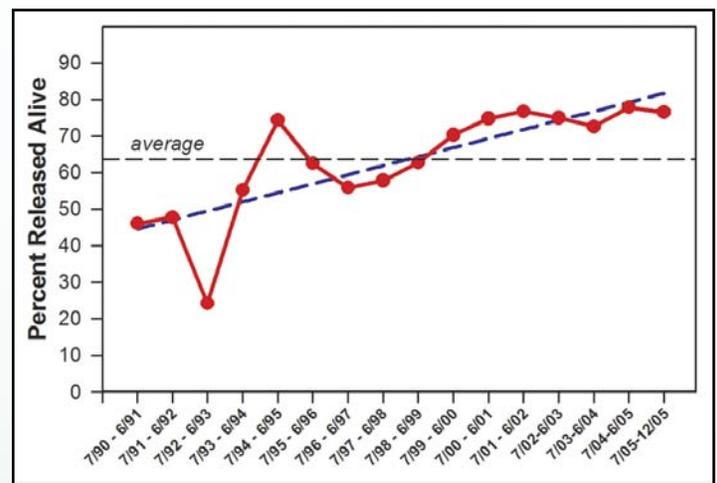


Figure 2. The percentage of subadult red drum caught and released by fishers; these fish were sublegal or bigger than the maximum size permitted and also within the legal slot. Dashed line shows trend.

Fishery Independent Sampling

The monthly trammel net survey conducted in eight locales along the South Carolina coast has been conducted monthly since 1991. This study assumes that the catch per effort (CPUE= net set) is related to the abundance of subadult red drum in South Carolina waters. The value for 2003-04 is 37% greater than the long-term average whereas that for 2004-05 is 27% greater than the overall value (Figure 4). The fishery mainly targets age 1 and 2 year fish. The abundance of 1- year old fish in the inshore waters predicts what will happen in the following two to three years. The strong yearclass of 2000 and the above average abundances of 2001 and 2002 will remain in the fishery for only a short time. The 2003 yearclass is below average which indicates that fishing will be poor for subadult red drum. If the 2004 yearclass is strong, the inshore fishery will improve (Figure 5). The abundance of subadult red drum depends on the successful spawning, movement of young to the nursery area and relatively high levels of survival. These factors are highly variable.

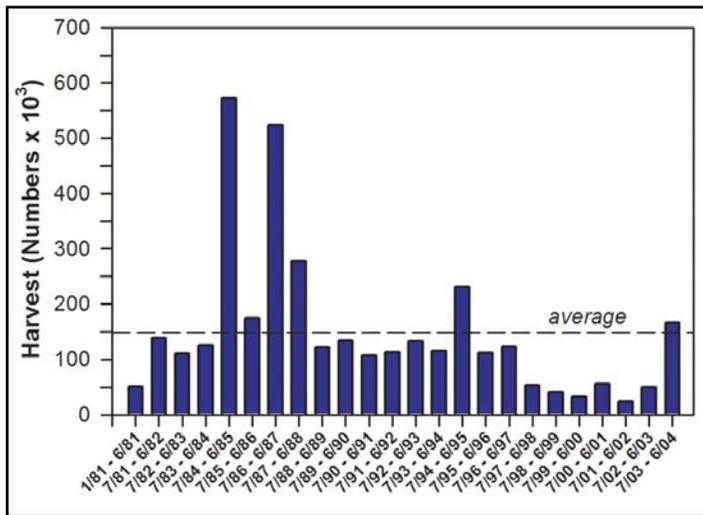


Figure 3. Number of red drum harvested in the recreational fishery by year. Dotted line is the average for the period.

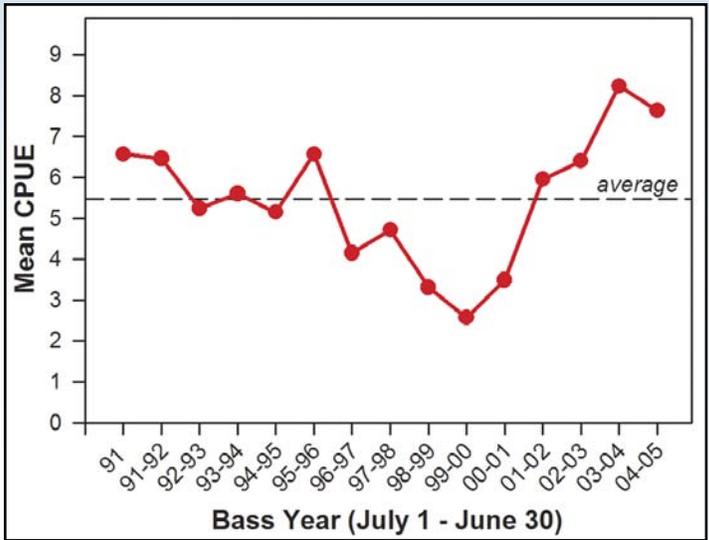


Figure 4. Average catch per net set by time interval for red drum. Dashed line is the average value for the period.

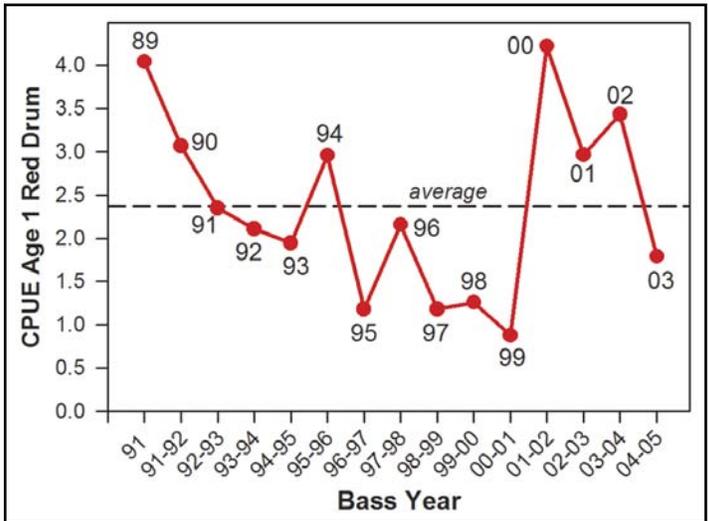


Figure 5. Average catch per set of previous year's young in trammel net sets. Numbers on chart refer to the yearclass.



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